

## Complexity and Connections

We are devoting a great deal of space in this issue of the journal to discussions on mercury—not because mercury is the most important public health problem, or even the most important environmental health problem, but because it raises some of the most difficult and complex public health issues and can be a model for how we think about and address environmental health.

The first of these issues, of course, is the question of how we interpret biostatistical and epidemiologic data. In the case of mercury, the evaluation of data, even the same data, by different individuals, agencies, or professions has led to different results and recommendations, and it is essential that the public health community address those differences.

Second, there is the question of certainty and risk. When there is disagreement and uncertainty about how to interpret a set of data, how do we measure risk? And how much risk is acceptable, how much risk should be imposed on communities or individuals, and how much risk is the government responsible for eliminating or reducing?

These two issues relate to the next two, information and fairness. When experts and professionals disagree, how can and should the public be informed? By whom? As the layperson struggles to decipher contradictory reports and contradictory recommendations or analyses, what is the role of the public health professional and the public health agency? How do we ensure that information is available in a way that will be accessible and clear? And do we set standards for the most likely occurrence or the worse case? For the majority population or those at higher risk, if some populations are far more at risk than others?

Last, mercury raises many broad policy issues that reflect our cultural ambivalence about interfering with the marketplace. Years ago I saw a news photo of workers demonstrating outside a nuclear power plant that was threatened with closure. A worker carried a picket sign that said, “Save the plant, save our jobs.” He was holding the hand of a very young child. She, too, carried a handmade sign: “No nukes, save lives.”

Like nuclear energy, coal, tobacco, and food additives, mercury as a public health issue raises serious economic questions. With these other issues, public

health and individual health were weighed as only one part of an equation before regulatory action was taken. The needs of tobacco farmers and investors, taxpayers, and manufacturers, workers and their families are often weighed equally against the needs of or danger to the wider public. In her mercury article, Kathryn Mahaffey presents an overview of the problem. Bender and Williams make a strong argument for policies that need discussion now.

Part of the beauty of the field of public health is its complexity and the relationship of its disciplines to one another. Several of our articles in this issue demonstrate the synergy created when different segments of the public health community work together.

Sherlock Holmes would have recognized the power of data, observation, and analysis evident in the work of the epidemiologists in Florida who tracked the course of a cyclosporiasis outbreak, as described by Katz et al. But there would have been no trail to follow had not other aspects of public health—policy and education—played a role. The sleuths were aided by law: in 1996 Florida was the only state that required screening for cyclosporiasis. Reporting requirements are an essential tool of public health, but policy is useless if not implemented or monitored. The disease detectives were also aided by successful outreach to and training of the medical community, a wonderful collaboration of government and professional organizations.

Assessment and policy development are meaningless without assurance, even when an evaluation mechanism exists. The force of law, sadly, is insufficient to guarantee that good policies change behavior. Arcury et al. describe what fails to happen when policy is left to stand on its own, without an adequate system in place to monitor implementation. On the other hand, good evaluation and re-examination often leads to strengthening programs and policies. Dower and Finocchio, lead authors of a report by the Pew Commission’s Taskforce on Health Care Workforce Regulation, describe a role for a public health approach, and in particular an emphasis on measurable outcomes, in policy development. The use of comprehensive outcome measurements could inform and shape much of the debate flowing from the PEW reports.

—Judith Kurland ■